Mav-13-13 1:11:30 PM item ID:

Required Date: 5/24/13

D3391-025

Accept

N900040100

Setup Start

Revision ID:

Item Name: Aft Tube Assembly

Start Date: 5/24/13 Start **Qty:** 1.00 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: MC5 Date: /3-05-/5 Tooling:

Date:

Run

Stop

Date:

SPC (Y/N):

Set Up/

Run Hours

Date:

Tool # Plan

Code

Accept Qty

Reject Otv

Reject Number Stamp

Work Center ID Draw Nbr

Sequence ID/

Description **Revision Nbr**

Operation

D3391

100

100

MORI SEIKI CNC LATHE LARGE

Mori Seiki

Mori Seiki CNC Lathe Large

Memo . Turn as per Folio FA599

scribe batch # on fwd end at 90 degree

110

OC2- Inspect parts off machine FAI/FAIB

110

QC

Memo

Quality Control

112

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

112

QC ·、

						-		
				DQA:	Date:	#	,	
NCR:	Yes /	/ No	WORK ORDER NON-CONFORMANCE / UPDATE					

			_								QA Closed:	Date	:
Work Orde	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N	 No					Rework Scrap Use-as-is Work Order Update			Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root					Descri	ption of work order update		nitial	Ac	tion	Sign &		
Cause		Date	Step	Qty	l	or Non-conformance	Ch	Chief Eng Description		ription	Date	Verification	QC Inspector
Doc/Data				•						········			
Equip/Tooling							İ						
Operator													
Material						*							
Setup													
Other		7											
Process													
Supplier													
Training													
Unapproved								4 '	·				
						F	AUL'	T CATE	GORY				
Landi	ng Gea	ır				General					_		
	Be	nding				Bend		Grain			Ovalized		Pressure/Forced
	Ce	ntre No	t Concer	tric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Cr	acks				Broken/Damaged		Inspecti	on Incomplete	L	Part Incorred	it _	Weld
	Cr	ushed/C	Crimped			Burrs		Instruct	ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs					Contamination		Mainte	nance		Part Moved		
	Heat Treat			Countersink		Mislabe	eled		Positioned V	Vrong _	_		
	Inspection Strip in Tube			Cut Too Short		Misread	1		Power Loss/	Surge	Other		
				Drill Holes		Offset							
	Torque Waves in Extrusion Drawing			Drawing	Ш	Out of 0	Calibration						
	Turning Sequence Finish				Finish		Out of S	Sequence					
	\mathbf{H}					Folio		Outside	Dimensions				

	*			
Work	Orde	r ID	101	679

Page 2

May-13-13 1:11:30 PM Accept *N900040100* Setup Start D3391-025 Item ID: **Revision ID:** Aft Tube Assembly Item Name: *1* Start Qty: 1.00 **Cust Item ID:** 5/24/13 **Start Date:** Req'd Qty: 1.00 Required Date: 5/24/13 **Customer:** Reference: Run **Process Plan:** Date: **Tooling:** Date: Approvals: Stop QC: SPC (Y/N): Date: Date: Reject Insp. Sequence ID/ Set Up/ Tool ID Tool # Plan Accept Reject Operation Qty Qty Number Stamp Work Center ID **Description Run Hours** Code 0.00 120 HAAS CNC VERTICAL MACHINING #1 *120* to 13-06-04 0.00 HAAS 1 Memo HAAS CNC vertical machine #1 1-Machine as per Folio FA 599 Rev: ___ & Dwg D3391 Rev: ____ 2-Deburr QC2- Inspect parts off machine FAI/FAIB 0.00 130 *130* BT 13-06-04 0.00 QC Memo Quality Control 0.00 QC8- Inspect parts - second check 140

140 QC

Memo Quality Control

0.00

INSPECT INSIDE BORE

NCR:	Yes	1	No
INC.D.	162	,	14()

WORK ORDER NON-CONFORMANCE / UPDATE

į.		Ł	₽
DQA:	Date: _ _		,
	15/03/	1 /0	
	/	<i>,</i> ,	

-										QA Closed:	Date:	• -1/4	
Work Order	: 101	107	9		DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. <u>D3391-025</u> NCR No. <u>15-4597</u> Work Order Updat							Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other	
Root Description of work order update							nitial	Act	ion	Sign &			
Cause	Date	Step	Qty		or Non-conformance	Ch	ief Eng Description			Date	Verification	QC Inspector	
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved	13-06-04 120 ×1 Hole pattern of by 1071 on 7.500 dim one ride 7.4955 and 7.5145, .0045 over tolerand 21. operate them.					٠.	(P) 18/10	Accepted on test unil tag to notify gear dept assembline	le based fit. part landing seem t. when	9 13/6/10	S Istolle ?	Sistoilin	
			· · · · · · ·		F	AUL	T CATE	SORY)	·	<u> </u>		
Landing	g Gear				General			•					
Bending Centre Not Concentric to O/S Bend BOM/Route Broken/Damaged Burrs Cuffs Contamination							Hardware Over/Under tolerance Te Part Incorrect W				Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled		
-	Heat Treat Countersink					\vdash	Mislabe		 	Positioned V	· ·	704	
' -	Inspection Strip in Tube Cut Too Short Ripples in Bend Drill Holes					\vdash	Misread			Power Loss/	Surge	Other	
-	Ripples in Bend Drill Holes Torque Waves in Extrusion Drawing					Offset Out of Calibration							
 	Turning Sequence Finish				\vdash		equence						
-	Wave/Twist in Tube Folio				H		Dimensions						
	Wave/Twist in Tube Folio					لــــــــــــــــــــــــــــــــــــــ	Juisiue	United Stories					

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May-13-13 1:11:30 PM

Item ID: Revision ID:	D3391-025	1.22. (1.172. (1.2711	<u> </u>	Accept	*N900	040	100*	Setu	up Star Stop	1 70	S1*
Item Name: Start Date: Required Date:	Aft Tube Asse 5/24/13 5/24/13	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item I Customer:	D:			Stop	′ ^N\	S2*
Reference:		,						Rur	ı Star	· t ala Bill	- 4 +
Approvals:	Process Pla	in:	Date:	Tooling:	Da	ate:		Nui	Stop	1/1	R1*
	QC:		Date:	SPC (Y/N):	Da	ate:			Stop	່ *N⊦	R2*
Sequence ID/ Work Center II)	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Acce Code - Qty		Reject Qty	Reject Number	Insp. Stamp
150		Skidtubes		0.00				°t.			
150 Skidtubes				0.00			<i>J</i>				
Skidtubes		Мето 1-Drill (PlL	LOT HOLE) aft cap ho	oles per Dwg D3391 using DT8	803						.,
		,								•	
										A Re	
160				0:00				,		÷	
160		BENDING MACHINE -	- SKIDTUBES								
CNC Bend 1		Memo		0.00							
CNC Delta 100 Ben	der	Form as per	Dwg D3391 Using B	send Prog 3391025			i e e e e e e e e e e e e e e e e e e e	٠,		·	
170		QC5- Inspect part compl	leteness to step on W/C	O 00							
170 QC Quality Control		Memo		0.00						·	

NCR:	es / No				WORK ORDER NON-CONFORMANCE / UPDATE									
										QA Closed:	Date	•		
Work Orde	or.				DISPOSITION				AGAINST D	EPARTMENT	/PROCESS			
WOIK OIGE					Rework	ר ו		Skid-tube	Crosstube	7	Water Jet	Engineering		
Part N	lo.				Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality		
· uici					Use-as-is	1	l .	noforming	Finishing	⊣	re/Packaging	Other		
NCR N	No				Work Order Update	1	B .	Large Fab	Composite		Supplier			
Root				Descri	ption of work order update		Initial	Acti	ion	Sign &				
Cause	Date	Step	Qty	(or Non-conformance	Cr	nief Eng	Descr	iption	Date	Verification	QC Inspector		
Doc/Data														
Equip/Tooling								1						
Operator								1						
Material							ĺ	1						
Setup								1						
Other								1						
Process								1						
Supplier								ı						
Training								ı						
Unapproved		<u> </u>	<u> </u>		THE RESERVE OF THE PROPERTY OF									
					F	AUL	LT CATE	ORY						
Landi	ng Gear				General	_	7		_	- -1	_	7		
	Bending Bend						Grain		_	Ovalized		Pressure/Forced		
	Centre Not Concentric to O/S				BOM/Route		Hardwa			Over/Under	 	Temperature/Cure		
	Cracks				Broken/Damaged	L	4 '	on Incomplete	ļ	Part Incorred	-	Weld		
	Crushed/Crimped				Burrs	\perp	-1	ions Incomplete/U	Inclear	Part Lost/Mi	ssing	Wrong Stock Pulled		
	Cuffs				Contamination		Mainte		L_	Part Moved				
	Heat Trea	at			Countersink		Mislabe	led	<u></u>	Positioned V		7		
	Inspection Strip in Tube				Cut Too Short	Misread				Power Loss/	Surge	Other		
	Ripples in Bend				Drill Holes	Offset								

Out of Calibration

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

May-13-13 1:11:30 PM

- =	1.50 1 W										
Item ID: Revision ID:	D3391-025			Accept	*N900	040	100)*	Setup Sta	rt *N	S1*
Item Name:	Aft Tube Asso	embly							Sto	p *N	S2*
Start Date:	5/24/13	Start Qty: 1.00	*1*		Cust Item I	D:					
Required Date:	5/24/13	Req'd Qty: 1.00	*1*		Customer:						
Reference:									_		
Approvals:	Process Pla	an:	Date:	Tooling:	D:	ate:		F	Run Sta	1/7	R1*
	QC:		Date:		(Y/N): Date:				Sto	*N	R2*
Sequence ID/ Work Center II	D	Operation Description	· · · · · · · · · · · · · · · · · · ·	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180		Skidtubes									
Skidtubes		Memo		0.00							
Skidtubes		1-Open Aft	cap pilot hole to .208" as	per Dwg D3391							
		2-Drill float	bag holes using DT8809	as per Dwg D3391(Holes i	marked "A" Only.						
·		Wearplate Ji		3391 using DT8878(Mid T	`ube) & DT8217						

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2 previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

 $6\mbox{-}\mbox{Open up}$ all wearshoe , we arplate to 0.297"and float bag holes to 0.328" as per Dwg D3391.

7-Deburr

NCR: Y	es /	No
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												DQA:	Date	e: ,	•
NCR:	NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE QA Closed: Date:														
Vork Ord	er:				***************************************		DISPOSITION				AGAINST [DEPARTMENT	/PROCESS		
Part :	Part No						Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstub Machining Small Fa Thermoforming Finishin Large Fab Composit			_	Water Jet d. Eng. Coor. re/Packaging Supplier		ering uality Other
Root Cause	•	Date	Step	Qty	Des		ption of work order update or Non-conformance		Initial nief Eng		tion ription	Sign & Date	Verification	OCI	nspector
oc/Data uip/Tooling perator aterial tup cher occess pplier aining															
							F	AUI	T CATE	GORY					·-
Landi	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat				General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink		Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled			Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V	ssing	Weld	/Forced ture/Cure ock Pulled		
	Inspection Strip in Tube Ripples in Bend					Cut Too Short Drill Holes		Misread Offset			Power Loss/	Surge	Other		
	Torque Waves in Extrusion						Drawing Finish	Out of Calibration Out of Sequence							

Outside Dimensions

Wave/Twist in Tube

Folio

May-13-13 1:11:30 PM

Accept Item ID: D3391-025 *N900040100* Setup Start **Revision ID:** Aft Tube Assembly Item Name: *1* Start Qty: 1.00 **Start Date:** 5/24/13 **Cust Item ID:** Required Date: 5/24/13 **Req'd Qty:** 1.00 **Customer:** Reference: Run Process Plan: **Tooling:** Approvals: Date: Date: Stop SPC (Y/N): Date: Date: Reject Sequence ID/ Set Up/ Tool ID Tool # Plan Accept Reject Insp. Operation Qty **Qty** Number Stamp Work Center ID Description **Run Hours** Code 190 QC5- Inspect part completeness to step on W/O 0.00 *190* QC 0.00 Memo Quality Control Chemical Conversion Coat per QSI005 4.1 200 0.00 *200* 0.00 HandFinish Memo Hand Finishing QC7-Inspect Chemical Conversion Coat 0.00 210 0.00 Memo Quality Control

									DQA:	Date:	• •
NCR: Yes	s / No			WO	RK ORDER NON-C	ONFORM	MANCE / UP	DATE	QA Closed:	Date:	
Work Order:			***		DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part No.	Part No. NCR No.				Rework Scrap Use-as-is Work Order Update	Scrap Machining Small Fab Use-as-is Thermoforming Finishing			1	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				Description o	f work order update	Initial	Ac	tion	Sign &		-
Cause	Date	Step	Qty	or Non-	conformance	Chief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data											
quip/Tooling											
Operator]										
Material]									W-100-100	
Setup											
Other											
Process											
Supplier											
Fraining											
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Landing Gear General Ovalized Pressure/Forced Bending Bend Grain BOM/Route Over/Under tolerance Temperature/Cure Centre Not Concentric to O/S Hardware Broken/Damaged Weld Cracks Inspection Incomplete Part Incorrect Instructions Incomplete/Unclear Part Lost/Missing Wrong Stock Pulled Crushed/Crimped Burrs Cuffs Contamination Maintenance Part Moved Positioned Wrong Heat Treat Countersink Mislabeled Other Misread Power Loss/Surge Inspection Strip in Tube Cut Too Short Drill Holes Offset Ripples in Bend Out of Calibration Torque Waves in Extrusion Drawing Turning Sequence Finish Out of Sequence Folio Outside Dimensions Wave/Twist in Tube

FAULT CATEGORY

May-13-13 1:11:30 PM

Revision ID:	D3391-025			Accept	*N90	0040	100)*	Setup S	tart Stop	171	S1*
Required Date:	Aft Tube Asse 5/24/13 5/24/13	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Iter						"IN	S2*
Reference:	······································								Run S	tart	*N1	D1*
Approvals:	Process Pla		Date:	Tooling: SPC (Y/N):		Date:			S	Stop	*N	R2*
Sequence ID/ Work Center II)	Operation Description		Set Up/ Run Hours 0.00	Tool II	Tool#	Plan Code	Accept Qty	Rejec Qty		Reject Number	Insp. Stamp
220 Skidtubes Skidtubes		A/R Magna exp. date :	s as per dwg D3391 abond 6398 Batch:hrs as per QSI0015	0.00								
²³⁰ *230*		QC5- Inspect part comple	eteness to step on W/O	0.00								
QC Quality Control		Memo		0.00								
²³⁵ *235*		Pressure Wash per QSI00	05 4.3	0.00								
HandFinish Hand Finishing		Memo AND REAL	ODINE AS PER PAR09-04	0.00				,				

NCR:	Yes	/	No

DQA: _____ Date:

NCR: Y	es / No				WORK ORDER NON-	CONFO	RMANCE / U	JPDATE			
									QA Closed:	Date	e:
Work Orde	r:				DISPOSITION			AGAINST DI	EPARTMENT	/PROCESS	
Part N	0.				Rework Scrap Use-as-is]	Skid-tube Machining ermoforming	Crosstube Small Fab Finishing		Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR N	o			······································	Work Order Update] '"	Large Fab	Composite	, KeC/3to	Supplier	
Root				Descri	ption of work order update	Initia		Action	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chief E	ng D	escription	Date	Verification	QC Inspector
Ooc/Data										,	
quip/Tooling											
Operator		į									
/laterial											
etup											
Other											
rocess											
upplier							ļ				
raining										•	
Inapproved											
					F	AULT CA	TEGORY				
Landin	g Gear				General					_	
	Bending				Bend	Grai	n		Ovalized		Pressure/Forced
	Centre N	ot Concei	ntric to (o/s	BOM/Route	Hard	ware	Г	Over/Under	tolerance	Temperature/Cure
ľ	Cracks				Broken/Damaged	Inspe	ection Incomplete	e	Part Incorre	ct [Weld
	Crushed/	Crimped			Burrs	Instr	uctions Incomple	te/Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
<u> </u>	Cuffs				Contamination	Mair	ntenance		Part Moved		_
	Heat Trea	at			Countersink	Misla	abeled		Positioned V	Vrong	
	Inspectio	n Strip in	Tube	<u> </u>	Cut Too Short	Misr	ead		Power Loss/	Surge	Other
Ī	Ripples in	•			Drill Holes	Offse	et	t	_	_	
	Torque W		xtrusior	,	Drawing	Out	of Calibration				,
	Turning S				Finish	Out	of Sequence				
-	Wave/Tw		e		Folio		ide Dimensions			<u> </u>	

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Page 7

May-13-13 1:11:30 PM

Accept Setup Start D3391-025 Item ID: *N900040100* **Revision ID:** Aft Tube Assembly Item Name: 5/24/13 Start Qty: 1.00 **Start Date: Cust Item ID:** Required Date: 5/24/13 **Req'd Qty:** 1.00 **Customer:** Reference: Run Process Plan: Date: Date: Tooling: Approvals: Stop SPC (Y/N): Date: _____ Date: Reject Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Accept Reject Insp. Number Stamp **Work Center ID** Description **Run Hours** Code Qty Qty White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum 0.00 240 *240* Powdercoat 0.00 Memo Powder Coating START TIME: OVEN TEMPERATURE: FINISH TIME: QC3- Inspect Part Finish 0.00 250 *250* OC 0.00 Memo Quality Control 0.00 260 HandFinishing *260* HandFinish 0.00 1-Install inserts as per Dwg D3391 Hand Finishing 2-Install Aft Cap as per Dwg D3391 A/ R Sikaflex-241/-291 Sikaflex expiry date:

3- INSTALL WEARPLATES AS PER DWG

										DQA:	Dat	e: ,
NCR: Y	es / No				WORK ORDER NON-C	100	NFORM	AANCE / UP	DATE			
·										QA Closed:	Dat	e:
Work Orde	ar.				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
WOIR OIG					Rework	1]		Skid-tube	Crosstube	1	Water Jet	Engineering
Part N	lo				Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
					Use-as-is			noforming	Finishing	4	re/Packaging	Other
NCR N	lo.				Work Order Update			Large Fab	Composite]	Supplier	
Root					ption of work order update		Initial	Act		Sign &	_	
Cause	Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling	_						İ					
Operator							l					
Material												
Setup	_											
Other		·										
Process		ļ										
Supplier												
Training												
Unapproved	<u> </u>	<u> </u>				<u> </u>	T CATE	CORV	, n	[·	l	
Landi	ng Gear				General	HUL	.I CATE	JORT				
	Bending				Bend		Grain			Ovalized		Pressure/Forced
	Centre No	ot Conce	ntric to (o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged		1	on Incomplete		Part Incorred	ct	Weld
	Crushed/	Crimped			Burrs	-	1	ions Incomplete/U	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination		Mainte	nance	Ĭ	Part Moved	_	
	Heat Trea	at			Countersink		Mislabe	led		Positioned V	Vrong _	
	Inspectio	n Strip in	Tube		Cut Too Short		Misread			Power Loss/	Surge [Other
	Ripples in	Bend			Drill Holes		Offset					
	Torque W	laves in E	Extrusion	n [Drawing		Out of C	Calibration				

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

May-13-13 1:11:30 PM

D3391-025 Item ID:

Required Date: 5/24/13

Accept

Setup Start

Run

Revision ID: Item Name:

Start Date:

Aft Tube Assembly

5/24/13

Start Qty: 1.00 **Req'd Qty:** 1.00

Cust Item ID:

Customer:

Tool ID

Reference:

Approvals:

Process Plan:

Date:

Date:

Tooling:

Date:

QC:

SPC (Y/N):

Date:

Sequence ID/ Work Center ID

Operation Description Set Up/ **Run Hours**

Tool # Plan Code

Accept Qty

Reject Reject Qty

Insp. Number Stamp

270

270

QC5- Inspect part completeness to step on W/O

0.00

0.00

Quality Control

Packaging

280

* 28 በ* Packaging

Identify as per dwg & Stock Location:

0.00

Memo

Memo

0.00

290

QC21- Final Inspection - Work Order Release

0.00

Quality Control

Memo

MF 12-04

0.00

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFORM	MANCE / UP	DATE			
											QA Closed:	Date:	
Manle Ond						DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Work Ord	er.				 	Rework	7		Skid-tube	Crosstube	1	Water Jet	Engineering
Part !	Nο					Scrap	┪		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
1 4101	10.					Use-as-is	1	4	noforming	Finishing	-∤	re/Packaging	Other
NCR I	No.					Work Order Update	1		Large Fab	Composite	1	Supplier	1
	•										<u>-</u>		
Root						ption of work order update		Initial		tion	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	CI	hief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling	Ш		1				1						
Operator	Щ			ļ									
Material	Ш							:					
Setup	Ш												
Other	Ш												
Process	Ш												
Supplier	Ш												
Training	Ш												
Unapproved													
						F	AU	LT CATE	GORY				
Landi	ng C	ear				General	_	7		_	7		7
	Ш	Bending				Bend		Grain		<u> </u>	Ovalized	<u> </u>	Pressure/Forced
	-	Centre N	ot Concei	ntric to O	/S	BOM/Route	_	Hardwa		<u></u>	Over/Under	-	Temperature/Cure
	-	Cracks				Broken/Damaged	_		on Incomplete	L	Part Incorred	-	Weld
	-	Crushed/	Crimped			Burrs	\perp	4	ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Ш	Cuffs				Contamination	\perp	Mainte			Part Moved		
	Ш	Heat Trea	at			Countersink	L	Mislabe		<u></u>	Positioned V		٦
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	I		Power Loss/	Surge	Other
		Ripples in	n Bend			Drill Holes		Offset					

Out of Calibration
Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

May-13-13 1:11:29 PM

Work Order ID: 101679 Parent Item: D3391-025 **Start Date: 5/24/13** Required Date: 5/24/13 Parent Item Name: Aft Tube Assembly Start Qty: 1.00 Required Qty: 1.00 **Comments:** IPP Rev B 06-02-07 ECN773 dwg rev. D EC 06-03-28 Update Manuf. Instructions JLM IPP Rev:C IPP rev D 07.03.20 revF dwg EC rev G dwg ecn 1053p EC verified by: DD IPP rev E 07.11.07 DD verified by: EC IPP Rev:F 07-11-13 ECN 1056 IPP Rev:G 08-09-10 revH as per dwg DD verified by:EC IPP Rev:H 11.11.14 AS PER REV.I DD verified by:JLM Replacement Qty per Kit Total Component Item ID/ Mfg/ Last Unit of Qty on Status Bin **Primary** Qty Date Route Item Name Item ID Location Measure Hand Item Location Seq ID Issued Issued Purch **Qty** D4095-047 No 260 Each 12.0000 Manufactured Wearpad Assembly Location Loc Oty Loc Code FP001 12 12 93055 D4095-049 No 260 Each 20.0000 Manufactured Wearpad Assembly Location Loc Qty Loc Code FP001 20 86246 5 91951 4 92731 10 93056 D6014-090 100 Each 110.0000 No Manufactured ALUMINUM EXTRUSION Location Loc Qty Loc Code LG 93 Kc 13-5-17

LG015

79742

93

17

17

										DQA:	Date:	3
NCR:	Yes / N	0			WORK ORDER NON-	CO	NFOR	MANCE / UP	DATE			Y
										QA Closed:	Date:	
Work Orde	or:				DISPOSITION				AGAINST D	EPARTMENT,	/PROCESS	
WOIK OILL	-·· ——			· · · · · · · · · · · · · · · · · · ·	Rework	7		Skid-tube	Crosstube	7	Water Jet	Engineering
Part N	No				Scrap	┨		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
raiti	•••-				Use-as-is	1	1	noforming	Finishing	⊣	re/Packaging	Other
NCR N	No.				Work Order Update	1		Large Fab	Composite	1	Supplier	i —
						J		ليسا	'	!		
Root				Descri	ption of work order update		Initial	Ac	tion	Sign &		
Cause	Dat	e Step	Qty	(or Non-conformance	Ct	nief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data						Т						
Equip/Tooling												
Operator												
Material		:						:				
Setup	Ш									,		
Other	Ш											
Process												
Supplier	Ц											
Training	Ш											
Unapproved						丄				<u> </u>		
						AUI	LT CATE	GORY				
Landi	ng Gear			Г	General	_	10:			المالية المالية]p/5d
	Bendi	_		_ <u> </u>	Bend	\vdash	Grain		-	Ovalized	+=l======	Pressure/Forced
	⊢⊣	Not Conce	entric to	^{0/S}	BOM/Route	-	Hardwa		-	Over/Under	—	Temperature/Cure Weld
	Cracks			-	Broken/Damaged	\vdash	-1	on Incomplete	Lindor –	Part Incorred Part Lost/Mi		Wrong Stock Pulled
	—	ed/Crimped			Burrs	\vdash	Mainte	ions Incomplete/	Unclear	Part Moved	22111g	J wrong Stock Pulled
	Cuffs	.			Countarion	\vdash	Mislabe		<u> </u> -	Positioned V	Vrong .	
	Heat 1	reat			Countersink		liviisiabe	iea		Positioned v	violig	_

Misread

Out of Calibration
Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

May-13-13 1:11:29 PM

Work Order ID:	101679										
Parent Item:	D3391-025							Start I	Date: 5/24/13	Required D	ate: 5/24/13
Parent Item Name:	Aft Tube Assembly							Start	Qty: 1.00	Required (2ty: 1.00
D3670-4-200 SPACER		Manufactured	No			230	Each	222.0000	4	4	
				Locatio	<u>n</u>	Loc Oty		Loc Code			
				FG		1()				
					87709	10)				
				LG		80					
					96240	80					
				LG001		92	2				
					78606	2					
					81972	4					
					87709	71					
					88580	15	j				
				LG005		40)				
					80360	40					
2646		Manufactured	No			270	Each	105.0000	1	1	
ıft Cap									·		
				Locatio	<u>n</u>	Loc Qty		Loc Code			
				FG		4	ļ		***************************************		
					85848	2	<u>;</u>				
					90495	2	!				
				FP001		101				name much his cut	
					62678	5					
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					70945	I					
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					73294	Ì			~		
					73825	2					
					79562	2			-		
					85443 85848	2					
					83848 91189	17			-		
					93661	31					

NICD.		,	A1 -
NCR:	Yes	/	NO

												DQA:	Date	:
NCR:	Yes	/ No					WORK ORDER NON-O	COI	NFOR!	/ANCE / UP	PDATE	QA Closed:	Date	:
Vork Ord	er:						DISPOSITION				AGAINST D	EPARTMENT	/PROCESS	
Part NCR	t No. Rework S Scrap M Use-as-is Thermo						Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	-	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other			
Root Cause		Date	Step	Qty	Des		ption of work order update		nitial ief Eng		ction cription	Sign & Date	Verification	QC Inspector
oc/Data puip/Tooling perator laterial etup ther rocess upplier raining											•			
							F	AUL	T CATE	GORY		<u>,,,</u>		
Land	ing (Bending Centre No Cracks Crushed/O Cuffs Heat Trea Inspection Ripples in	Crimped t n Strip in Bend	Tube			General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		Instructi Mainte Mislabe Misread Offset	on Incomplete ons Incomplete/ nance led	/Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned W Power Loss/S	st ssing /rong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
		Turning S			ו		Drawing Finish	-		alibration equence				

Outside Dimensions

Wave/Twist in Tube

Folio

May-13-13 1:11:29 PM

Work Order ID: 101679 D3391-025 **Start Date:** 5/24/13 Required Date: 5/24/13 Parent Item: Start Qty: 1.00 Required Qty: 1.00 Parent Item Name: Aft Tube Assembly D3672-1 No 270 Each 1,412.0000 2 2 Manufactured Phenolic Washer Loc Code Location Loc Qty FG 10 85222 10 GA 74 85222 74 ST061 801 83608 3 91325 298 99099 500 527 ST062 527 93886 260 Each 4,619.0000 14 ALS4-1032-130 No Purchased Insert Location Loc Oty Loc Code 389 FP001 119084 116 120671 89 36 120807 120837 8 121269 140 ST279 40 124080 40 4190 st510

4190

124163

NCR:	Yes	1	No
NUN.	162	/	INO

DQA: _____ Date:

NCR: Y	'es	/ No				WORK ORDER NON-	COL	NFORM	MANCE / UP	DATE			
											QA Closed:	Dat	e:
Work Orde						DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N	-					Rework Scrap			Skid-tube Machining	Crosstube Small Fab	Pro	Water Jet d. Eng. Coor.	Engineering Quality
	NCR No. Work Order							Therm	noforming Large Fab	Finishing Composite	-1	re/Packaging Supplier	Other
Root					Descri	ption of work order update	l	nitial	Ac	tion	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	n QC Inspector
oc/Data													
quip/Tooling													
perator													
1aterial													
etup	\Box												
ther													
rocess													
upplier													
raining													
napproved													
							AUL	T CATE	GORY				
Landir	ng G	iear			_	General		ı			7	r	
		Bending				Bend	Щ	Grain		<u> </u>	Ovalized	1	Pressure/Forced
	_	Centre No	t Concer	ntric to (o/s	BOM/Route	\vdash	Hardwa		_	Over/Under	F	Temperature/Cure
		Cracks				Broken/Damaged	Ш	Inspecti	on Incomplete	_	Part Incorred	-	Weld
		Crushed/0	Crimped			Burrs	Ш	Instruct	ions Incomplete/l	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
		Cuffs			L.	Contamination		Mainte	nance		Part Moved		
		Heat Trea	t			Countersink		Mislabe	led		Positioned V	Vrong	
		Inspection	n Strip in	Tube		Cut Too Short		Misread	j	<u> </u>	Power Loss/	Surge [Other
[Ripples in	Bend			Drill Holes		Offset					
		Torque W	aves in E	xtrusio	າ [Drawing		Out of O	Calibration				
		Turning Se	equence			Finish		Out of S	Sequence				
		M/ave/Tw	ist in Tub	10		Folio		Outside	Dimensions				

May-13-13 1:11:29 PM

Work Order ID:	101679										
Parent Item:	D3391-025					•		Start D	ate: 5/24/13	3	Required Date: 5/24/13
Parent Item Name:	Aft Tube Assembly							Start (Qty: 1.00		Required Qty: 1.00
ALS4-1032-225 Insert		Purchased	No			270	Each	898.0000	8	8	
				Locatio	<u>n</u>	Loc Oty		Loc Code			
•				FP001		842					
					118386	55					
					118966	68					
					120410	10			 		
					120451	13					
					121269	77					
					122827	619					
				ST280		56					
					118520	56					
AN3C4A BOLT		Purchased	No			270	Each	3,279.0000	6	6	
				Locatio	n	Loc Qty		Loc Code			
				FG	<u></u>	20					
				ru	122814	20					
				000010	122014						
				ST512	121205	3259			-		
					121205 123759	3 256					
					125388	3000					
13051			Nia		123366	270	Each	2 527 0000			
AN3C5A Bolt		Purchased	No			270	Eacn	2,527.0000		4	·
				<u>Locatio</u>	<u>n</u>	Loc Qty		Loc Code			
				FG		5					
					122800	5					
				ST350		28					
					116419	28					
				ST512		2494					
				0.312	124221	732					
					125388	1762					
AN960C10L washer	NAS1149C0332R	Purchased	No			270	Each	0.0000	10	10	

DQA: Date: **WORK ORDER NON-CONFORMANCE / UPDATE** Yes / No NCR: QA Closed: Date: **DISPOSITION AGAINST DEPARTMENT/PROCESS** Work Order: Engineering Skid-tube Crosstube Water Jet Rework Quality Small Fab Prod. Eng. Coor. Machining Part No. Scrap Other Use-as-is **Thermoforming Finishing** Rec/Store/Packaging Composite NCR No. Work Order Update Large Fab Supplier Description of work order update Action Initial Sign & Root Description Qty or Non-conformance Chief Eng Verification QC Inspector Date Cause Date Step Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved **FAULT CATEGORY Landing Gear** General Pressure/Forced Bend Ovalized Bending Grain BOM/Route Temperature/Cure 9, 0 Over/Under tolerance Centre Not Concentric to O/S Hardware Broken/Damaged Weld Part Incorrect Cracks Inspection Incomplete Crushed/Crimped Burrs Instructions Incomplete/Unclear Part Lost/Missing Wrong Stock Pulled

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish Folio Part Moved

Positioned Wrong

Power Loss/Surge

Other

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

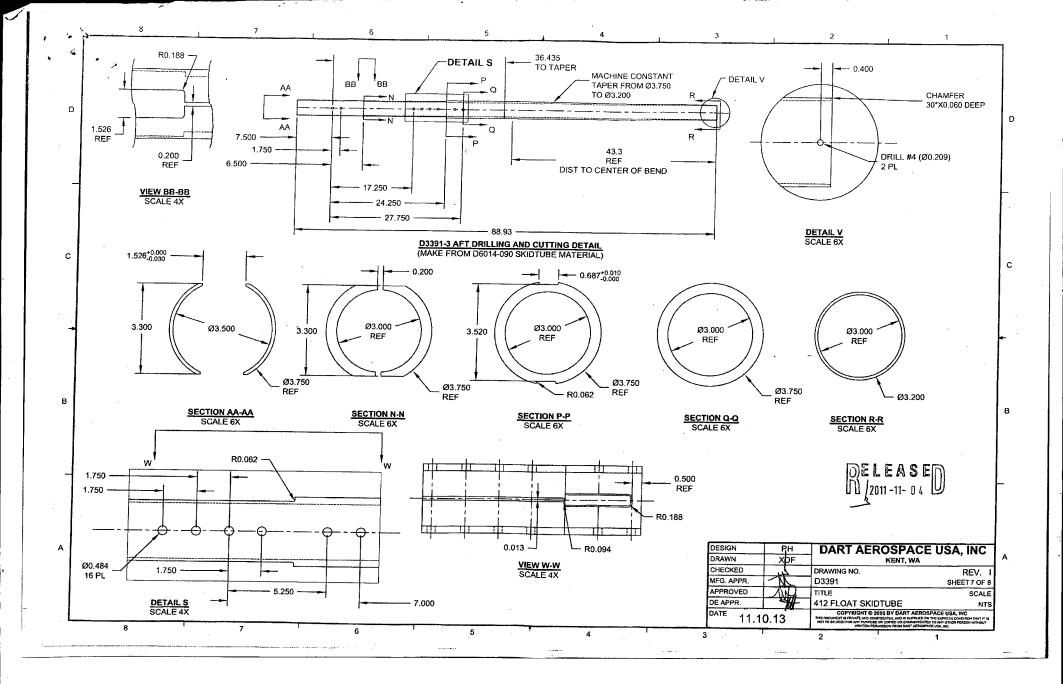
Wave/Twist in Tube

Cuffs

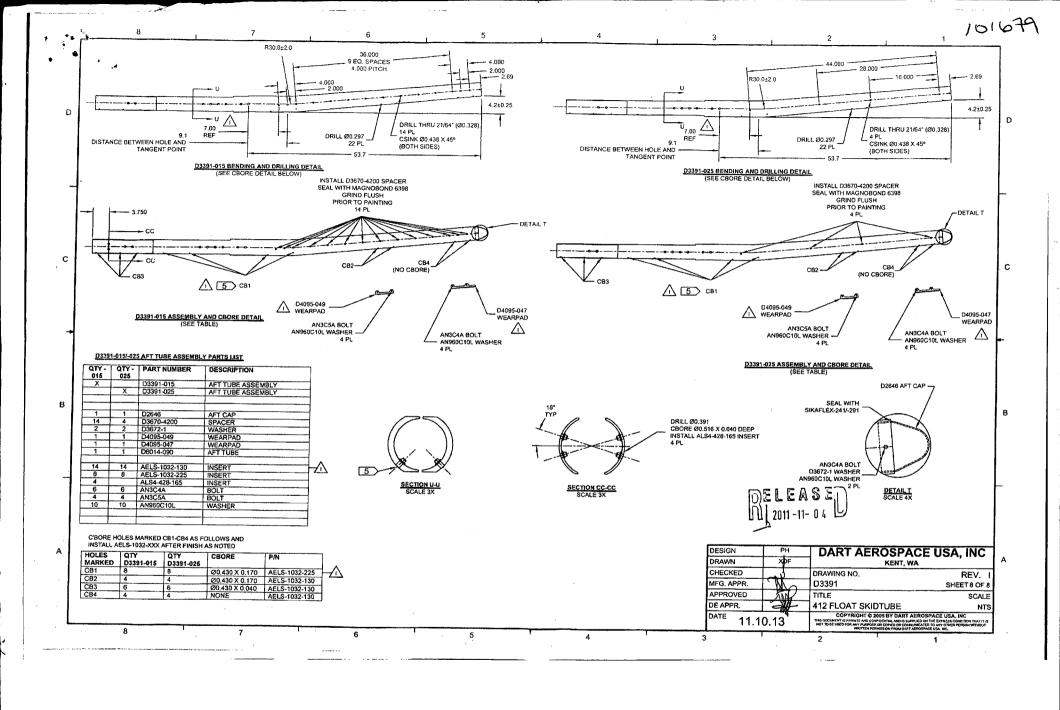
Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion



101679 MLJ 13-05-15





DART AEROSPACE LTD		Work Order:	101679
Description: Float Skidtube (412)		Part Number:	D3391-3
Inspection Dwg: D3391 Rev: I			Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
		Lat	he Section	n		
14.000	+/-0.010	14,00			tupp	6-15
3.500	+/-0.010	3.501	<u> </u>		vern	CNC-08
Ø3.200	+/-0.010	3.198				
Ø3.750	+/-0.010	3 75				
30° x 0.060 chamfer	+/-0.010	30° ×.0.60	\(\sqrt{_{\infty}} \)		J	
88.93	+/-0.030	88.93			tape	L6-15

Measured by: | Man | Date: | 3/05/18 |

Audited by: | 27 | Date: | 3-5-2/2 |

* '\$:		НА	AS Section	1			
1.526	+0.000/-0.030	1.519	100mc		um	37-4	
7.500	+/-0.010	7.516			ν.		
27.750	+/-0.010	27.750	Fure		Tipe	BJ - 4	
31.750	+/-0.010	31.750			, 1		
35.250	+/-0.010	35.250					
3.300	+/-0.010	3,310					
0.200	+/-0.010	. 206	- /				
3.520 ,	+/-0.010	3.527	, ,				
0.687	+0.010/-0.000	.487					
₹R0.062	+/-0.010	,062	/;				
.⁺Ø0.484	+0.005/-0.001	,489	/		1 sekset	a second second	13 ₄ 4'+-

Measured by: Date: 15-06-04

Audited by: Date:

Rev	Date	Change	Revised by Approve		
Α,	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM		
В	06.06.19	Dwg revision update	KJ/JLM		
С	07.04.20	Ø0.208 dimension removed	KJ/JLM		
D	07.09.06	0.400 dimension removed	KJ/JLM		
Ε	07.11.23	Dwg Rev. updated	KJ/EC/DD		
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM		
G	09.11.16	Dimension 0.200 removed	KJ		
Н	11.06.21	Dimension 44.995 removed	KJ		
1	12.05.15	Dwg Rev updated	KJ		
J	12.05.23	Dimension updated	KJ		
K	12.10.15	88.93 dimension removed	KJ 10	1.1	
L	12.11.28	88.93 dimension added	KJ 😽	S A	

75815 w 12/